

UG CURRICULUM

DENTAL MATERIAL

- 1) Introduction, Aims and Scope of Dental Materials.
- 2) Structure & Behaviour of matters.
- 3) Important Physical properties applicable to Dental Material including their biological considerations.
- 4) Considerations of following metals & alloy used in Dentistry and the effect of their exposure in mouth
 - a) Dental Amalgam
 - b) Gold and Gold Foil
 - c) Stainless Steel
 - d) Chrome - Cobalt alloys
 - e) Nickel - Chrome alloys
 - f) Casting gold alloys and other alloys used in Dentistry
- 5) Gypsum Products :- Manufacturing, Chemical, Physical & Mechanical properties, uses & manipulation.
- 6) Impression Materials -- General requirements, Classification, composition, manipulation, properties and clinical application.
- 7) Synthetic resins used in Dentistry.
 - a) Denture base materials
 - b) Repair & reline material
 - c) Soft liners & tissue conditioners
 - d) Filled and unfilled Resins as Restorative materials.
- 8) Dental Waxes - Classification, varieties, Composition, Properties, manipulation & uses.
- 9) Dental Casting investments - Types, Composition, manipulation & properties.
- 10) Dental Casting procedures (in brief) - Preparation of die/model - Wax pattern, Sprueing, investing - Burnout procedures - Compensation of casting

shrinkage, furnaces and muffles and various casting machines. Defects in casting - finishing & polishing of castings.

- 11) Welding & Soldering - materials & procedure.
- 12) Abrasive & polishing agents used in dentistry. Mechanism of tooth cutting, burs & points.
- 13) Dental Cements - Classification, Composition, manipulation properties and uses. Cavity liners and varnishes, Resin cements.
- 14) Dental Porcelain - General consideration, classification, condensation, firing procedure and glazing. Porcelain fused to metals (Metal Ceramics)
Aluminous porcelain & brief introduction about latest advances in porcelain.
- 15) Root canal filling materials.
- 16) Die and Models materials.
Electroforming & Electroplating (in brief)
- 17) Brief introduction to orthodontic materials.
- 18) Introduction to the materials used for Dental implant.
- 19) Brief introduction about the materials used for maxillofacial prostheses.

PRECLINICAL PROSTHODONTICS (PRACTICALS)

Practical Exercises:

A) Fabrication of complete Denture Prosthesis using edentulous Models (Cast)

- 1) Introduction, Aims, Objective and Scope.
- 2) Masticatory apparatus- Applied anatomy of the components
- 3) Anatomical landmarks and Physiological considerations of the Edentulous maxillary and mandibular arches.
- 4) Preliminary impression, (Demonstration only) and cast preparatio.
- 5) Construction of special trays in shellac base and self cured acrylic resin.

- a) Close-fit type b) Tray with full spacer and tissue stop.
- 6) Final impression & Master cast preparation by box-in technique (only Demonstration)
- 7) Preparation of Record bases..
 - a) Temporary denture bases (shellac/ selfaired acrylic resin)
 - b) Occlusion Rims of standard dimensions.
- 8) Brief introduction and Demonstration of J aw Relation recording
- 9) Brief introductions of articulators- Detail about Mean value articulator.
- 10) Transfer of Jaw Relation record on articulator.
- 11) Brief information about the selection of teeth.
- 12) Arrangement of teeth -Anteriors and posterior.
- 13) Reproducing gingival tissue morphology (Waxing and carving)
- 14) Laboratory Procedures:
 - i) Flasking -Various techniques in brief
 - ii) Wax elimination from mould (Dewaxing)
 - iii) Preparation and packing the mould with Denture base resin.

- iv) Acrylization -Brief introduction about curing cycles
- v) Deflasking -Denture recovery from flask.
- vi) Laboratory Remount Procedure and selective grinding.
- vii) Face bow preservation Record (optional)
- viii) Finishing and polishing of Dentures
- ix) Making Remount cast for Clinical remount procedure.

15) Teeth arrangement in Prognathic and Retrognathic ridge relations.

16) Repair to a broken complete denture.

B) Fabrication of Removable partial Dentures:

1. Brief introduction to partial Dentures.
2. Comparison between Removable and fixed partial dentures.
3. Classification (introduction) and rules governing the classification.
4. Making one tooth (Anterior) partial denture in acrylic resin.
5. Making (posterior) removable partial denture with 'C' clasp adaptation.
6. Surveying procedure (Demonstration only)
7. Brief introduction of various components of partial Denture.
8. Designing partial denture framework on partially edentulous cast (Drawing as Diagnostic model and in journal)
9. Brief introduction to various laboratory steps in fabrication of cast partial denture framework by using audio-visual aids.

C) Fixed partial Denture Prosthesis :

1. Brief introduction to crown and Bridge prosthesis
2. Principles of tooth reduction (Preparing abutment) to receive
 - a) Full crown for anteriors and posterior teeth .
 - b) partial veneer crown for anteriors and posterior teeth
 - c) Dowel crown/post and core crown (Demonstration only)

3. Casting procedure to fabricate 3 unit bridge (Demonstration only) with special consideration to making of dies and working models.
4. Brief introduction of pontic designs.

D) Special Prosthesis :

1. Making of cap spints & gunning splint (only Demonstrations.)
2. Fabrication of obturators (only demonstration)
3. Introduction (with models/charts/photographs) of various maxillofacial prosthesis & Dental Implant.

PROSTHODONTICS AND CROWN AND BRIDGE

LECTURES: 50 Lectures.

Complete Denture Prosthodontics :

1. Introduction to Prosthodontics, Terminologies , Aims , Objectives and scope
2. Human Masticatory apparatus : General consideration.
3. Anatomical & Physiological Landmarks of the maxillary and Mandibular Foundations and their significance.
4. Patients education related to complete denture prosthesis.
5. History taking, examination, diagnosis and treatment planning of an edentulous patient.
6. Importance of Diet and Nutrition.
7. Surgical and Non surgical preparation of the patient.
8. Impressions for complete Denture: Definition, Objectives.

Theories and Techniques of impression making.

9. Bordor moulding procedure with special attention to Posterior platal seal area. Various techniques for cast preparation.

10) Record Bases and occlusion rims :-
materials and methods of preparation.

- 11) Jaw relation records – Methods and instrumentation. Orientation relation (Face bow record)

Vertical Jaw Relation Horizontal Jaw
Relations.

- 12) Mandibular Movements and different types of articulators.
- 13) Selection and arrangement of teeth- Anterior and posterior
Concepts of occlusion, Balanced occlusion and factors responsible for the same.

14) Try in of waxed up Dentures.

Reproduction of gingival tissue morphology .

15) laboratory procedures ; Elasking , wax elimination, , packing, acrylisation, recovery of dentures.

16) Correction of processing errors – laboratory Remount procedure.

17) Trial insertion of Denture and Clinical Remount procedures.

18) Insertion of denture and instruction to a patient ; Recalls.

19) Repair of Broken denture; Relining & Rebasing of a denture.

20) Problems associated with the use of complete denture and their treatment.

21) Prosthetic Management of poor foundation cases (Atrophied Ridges)

22) Treatment of Abused oral tissues.

23) Recent advances.

B] Removable partial Dentures. :30 Lectures.

1. Introduction to partial denture, various terminologies used in partial denture.
2. Various components of fixed and removable partial denture and their comparison.
3. Classification of partially edentulous dental arches.
4. Dental cast surveyor and use of surveying procedure, path of insertion and removal.
 5. Components of partial dentures; Their selection, requirements of design and indications. (principles of designing and stress control)
 - a) The partial denture bases.
 - b) The artificial teeth.
 - c) The Direct Retainer.
 - d) The major connector.
 - e) The minor connector.
 - f) The indirect retainer.
 - g) The stress breaker.
 - h) The precision attachments.
6. Examination, diagnosis , treatment planning, surveying of diagnostic cast. 7.Preparation of patient to receive partial denture : General preparation.
8. Tooth alteration procedure. Making final impression to get master cast. Various impression procedure and Reviews on materials used.
- 9.Definitive analysis of master cast, work authorization to Dental Technician.
10. Laboratory procedures related to casting for fabrication of partial denture framework (Audio Visual demonstration.)
11. Trying of cast partial framework in mouth, adjusting the occlusion. The functional impression : Altered cast technique.
- 12.Jaw Relation record, selection and arrangement of teeth & try-in of denture.
13. Acrylization of partial denture bases-
14. Insertion of Removable partial denture & instructions to patient .
15. Patients Complaints and their solution.
16. Factors influencing magnitude of stress transfer on abutment teeth. 17.Management of Kennedy Cl I & II Cases and Cl III & IV cases. 18.Perioprosthodontic relationship.

FIXED PROSTHODONTICS : Lectures :- 30.

1. Aims and objectives of fixed partial denture prosthesis, and effects of loss of natural tooth/ teeth.
2. Examination & Diagnosis for patient of fixed partial denture .
3. Treatment required prior to fixed denture prosthesis.
4. Oral anatomy, physiology and histology as related to fixed partial denture prosthesis
5. Terminologies related to fixed prosthodontics.
6. Types of fixed partial dentures.
7. Component parts of fixed partial denture - Retainer, Pontic & Connector
8. Abutment selection and Questionable abutment.
9. Individual abutment preparation to receive
 1. acrylic jacket crown
 2. Porcelain fused to Metal jacket crown
 3. Partial veneer.
 4. Metal veneer crowns.
10. Tissue management and gingival dilatation methods.
11. Impression procedures in fixed prosthodontics
12. Temporization procedures.
13. Die preparation and review of materials used for die preparation , Laboratory procedures for fabrication.
14. Try in of fixed partial denture.
15. Cementation of fixed partial denture,
16. Maintenance of fixed partial denture, instructions to patients , recall visits repair of F.P.D. Management of failures in fixed partial denture treatment.
17. Restoration of Endodontically treated tooth.
18. Introduction to adhesive bridges, laminates, All ceramic crowns.

Special Prosthesis : Lectures :- 20

Brief introduction & general consideration.

1. Maxillofacial prosthesis - Aims & objectives, various types ,
materials used for maxillofacial prosthesis. Obturators & splints.
2. Overdentures, Immediate denture, Intermediate/ Interim or denture Implant
denture,

Prosthodontic consideration in geriatric patient.